

**Title of Investigation:**

College Freshmen Intern Program (CFIP)

Principal Investigators:

Nathan James and Carolyn Ng (Code 633)

Other In-house Members of the Team:

Marcellus Proctor (Code 562)

Other External Collaborators:

Maryland Space Grant Consortium, DC Space Grant Consortium

Initiation Year:

FY 2004

Aggregate Amount of Funding Authorized in FY 2003 and Earlier Years:

\$0

FY 2004 Authorized Funding:

\$25,000

Actual or Expected Expenditure of FY 2004 Funding:

In-house: \$500; Contracts: \$18,500 for EduTech and QSS

Status of Investigation at End of FY 2004:

Results to be used to continue investigation in 2005 with recommended modifications.
Extension requested using \$6,000 in unused funds.

Expected Completion Date:

September 2005

Purpose of Investigation:

One of the Code N initiatives encourages building a better pipeline between students in school and the NASA workforce. Currently, the Goddard Space Flight Center does not have any programs for college freshmen and sophomores. The purpose of this investigation was to fill in that gap by developing a pilot one-week summer intern program that would assist Goddard in identifying a diverse group of candidates for programs farther along in the pipeline.

FY 2004 Accomplishments:

On June 13, 2004, with the recruiting efforts of our partners, the Maryland Space Grant Consortium and the DC Space Grant Consortium, a highly diverse group of 16 recent high school graduates from across the country came to Goddard to participate in this one-week pilot program. At the end of the program, interns received a small stipend to cover their travel expenses.

The group included nine males and seven females. Broken down along racial lines, the group consisted of six Caucasians, six African Americans, three Hispanics, and one other.

In the mornings, the students attended lectures and tours, and in the afternoon, they worked on projects and talked with Goddard scientists and engineers. (To see the CFIP agenda, visit <http://space.gsfc.nasa.gov/cfip/agenda.html>.)

During the program, the up-and-coming freshmen were introduced to more than 27 scientists, engineers, technologists, and university faculty, who encouraged them to consider careers in space science and engineering. The hands-on projects gave the students an opportunity to work in teams as they used their problem-solving skills and creative imaginations in friendly competitions. At the end of each day, the students kept a journal of their experiences and noted suggestions on how we could improve the program in the future.

Overall, the 16 students felt they had a great introduction to Goddard, but not enough time to really find out what people did and to work alongside them. Some students with prior internship experience were expecting to be assigned to one mentor. But by the end of the week, they appreciated the opportunity to see the broader picture at Goddard and to learn of the myriad of science and technical career opportunities available on campus. At the end of the program, one particularly talented student was hired to stay an additional 3 weeks to complete the CFIP Web site and develop a mechanism for keeping in touch with program participants. Visit the College Freshmen Intern Program Web site at <http://space.gsfc.nasa.gov/cfip> for more details.

Planned Future Work:

After the program's completion, we learned that we could identify freshmen for Goddard programs through the Summer High School Apprenticeship Research Program (SHARP). Those students who already have NASA experience and are ready for a more complete research experience could apply for Goddard's Student Intern Program (SIP), which can be modified to include freshmen and sophomores. However, a gap still remains for up-coming college sophomores who are interested in science and engineering, but have little to no exposure to NASA and its opportunities. For this reason, we have requested an extension to specifically target rising sophomores in the Goddard service area who meet the above criteria. We also believe that we will have better success with more challenging projects that have been carefully thought out and designed for this program. By promoting the program at local colleges and universities, we also hope to extend the pipeline to previously untapped underrepresented groups to enhance the diversity of our interns and our workforce.

Summary:

Currently, Goddard does not offer programs for undergraduate freshmen and sophomores. We developed a program that would both expose students in that group to Goddard and allow us to survey these students for likely candidates for other Goddard programs. The payoff is the expansion of a diverse pool of NASA-ready candidates who could replenish Goddard's aging workforce. We will determine our success by whether the students from this program participate in other NASA pipeline activities and if we see an increase in the diversity of the people in those programs. One drawback to the pilot was that it was not challenging enough for program coordinators and mentors to adequately evaluate students for recommendation to upper-level Goddard student programs.